DOCUMENT RESUME

ED 234 644 FL 013 966

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TITLE	High School and Beyond: Issues Regarding the Language File, Bilingual Participation and Tests.
INSTITUTION	National Center for Bilingual Research, Los Alamitos, Calif.
SPONS AGENCY	National Inst. of Education (ED), Washington, DC.
REPORT NO	NCBR-TN-9
PUB DATE	Nov 82
NOTE	12p.; For related document, see FL 013 962.
AVAILABLE FROM	National Center for Bilingual Research, 4665 Lampson Ave., Los Alamitos, CA 90720
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Bilingual Education; Bilingualism; Cognitive Tests; *Data Analysis; High School Students; Hispanic Americans; Language Enrollment; National Surveys; Secondary Education; Test Validity
IDENTIFIERS	*High School and Beyond (NCES)

ABSTRACT

The use of the data files contained in the High School and Beyond (HSB) research project is discussed. The comments are based on an analysis of the HSB material and are specifically directed at the language file, high school bilingual program participation, and HSB tests. In an evaluation of the language file, the question of whether Hispanic language minorities are adequately represented is addressed. Regarding bilingual program participation, the question of which HSB survey questions are most applicable in ascertaining such participation is considered. Finally, the adequacy of the HSB cognitive tests is assessed. (RW)

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HIGH SCHOOL AND BEYOND: ISSUES REGARDING THE LANGUAGE FILE, BILINGUAL PARTICIPATION AND TESTS

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November 1982

TN-9

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ABSTRACT

This technical note is intended to provide users of the HS&B data set with a few of the lessons that the NCBR has learned in its work on language minority and bilingual education issues, specifically with regards to three areas:

- The HS&B language file;
- High school bilingual program participation; and
- HS&B tests.

Further, it contains additional references which may be consulted in continuing work with this rich resource.

HIGH SCHOOL AND BEYOND: ISSUES REGARDING THE LANGUAGE FILE, BILINGUAL PARTICIPATION AND TESTS

Marsha J. Hirano-Nakanishi

Introduction

The High School and Beyond (HS&B) data set provides an invaluable set of resources for researchers of bilingualism and bilingual education. As So (1982) notes:

> In addition to the rich number of variables it contains, the HS&B data set is also valuable to bilingual education in that it includes information on the largest language minority in the U.S., i.e., Hispanics. Rarely has a national survey on high school education paid sufficient attention to the issues facing the Hispanic language minority. Thus, the HS&B data set may be the first national project that aims to include adequate Hispanic respondents in its sample. (p. 7)

The National Center for Bilingual Research (NCBR) has begun some preliminary analyses using the HS&B data set. In his technical note, So provides a general description of the various data files contained in the HS&B set and of the data set's utility for bilingual education research, which serve as an introduction to familiarize readers with HS&B. Preliminary analyses of the data set with respect to bilingual issues also are available (Chan & So, 1982; So & Chan, 1982).

From time to time, the NCBR will provide technical notes for users of the HS&B data set. Researchers in bilingualism and bilingual education all are working towards the goal of developing a strong, empirical knowledge base. To assist researchers in approaching this collective goal more efficiently, the NCBR's technical notes will share lessons learned in using data sets, particularly lessons on technical quirks in data bases which sometimes keep research mired in preliminary explorations and away from more substantive analysis.

This technical note is written to assist users of the data set regarding three areas:

- The HS&B language file;
- High school bilingual education program participation; and
- HS&B tests.

More specifically, it looks at the issues of: (1) whether Hispanic language minorities are adequately represented in the HS&B data set, (2) which HS&B survey questions are most applicable in ascertaining bilingual education program participation, and (3) what we know about the HS&B cognitive tests.

The HS&B Language File

In the HS&B base-year language file, 11,303 respondents are identified as language minority youth (LMY), because these high school sophomores and seniors spoke a non-English language before entering school, they usually speak a non-English language now, and/or a non-English language is at least one of the languages now spoken in their homes.

From the National Center for Education Statistics (NCES) report (Silverman, 1978) on the educational disadvantage of LMY, aged 14-25, based on the 1976 Survey of Income and Education (SIE), one would expect that about 9% of the in-school and high-school-equivalent youth are language minorities.[1] In the HS&B data set, the 11,303 LMY respondents translate to an estimated 1 million language minority sophomores and seniors nationally--about 15% of the nation's estimated 6.8 million sophomores and seniors.

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[1] 3,774,000 LMY non-dropouts of 42,170,000 youth non-dropouts.

Further, in SIE, about 44% of the in-school and high-school-equivalent LMY were estimated to be of Hispanic origin.[2] However, in HS&B only about 29% of the weighted LMY sample are of Hispanic origin, while 35% are of European or Canadian backgrounds.

The estimates struck the staff of the NCBR as potentially problematic: overestimation of LMY and/or underestimation of Hispanic LMY seem possible. In a communication with the NCBR (Peng, 1982), Dr. Samuel Peng, Project Officer of the HS&B project at the NCES, addressed these concerns.

First, Peng suggested that the discrepancy between SIE- and HS&B-estimates of the number of LMY may be a result of different survey questions. Peng suggested that the HS&B estimate of language minorities was based on a more inclusive definition than that employed in the SIE data. Indeed, varying estimates regarding language characteristics seem directly related to the differences in wording of survey questions. In other work (Lopez, 1982), the NCBR has investigated discrepancies in estimates deriving from different surveys. Discrepancies seem less a function of sampling considerations than of differences in the wording of survey questions, and users of the HS&B data set are cautioned to take special care in interpreting meaning from designations of non-English language background. Lopez's work (1982) should provide a useful reference for interpretations regarding language issues.

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[2]Dropouts were defined as all 14 to 25 year-old-youth who were not enrolled in school from February to May 1976 and who had not completed 4 years of high school. Non-dropouts, then, were 14 to 25 year-old youth who either had a high school equivalent or were enrolled in school at the time of the survey. There were approximately 3,774,000 LMY non-dropouts, of which an estimated 1,654,000 were of Hispanic origin; see Silverman, 1978.

Second, Peng agreed that the HS&B estimate of Hispanic LMY may be low. In using HS&B base-year language data, he suggested including the self-reported non-Hispanic students with Spanish language backgrounds as students of Hispanic origin with a Spanish language background. Apparently, poor questionnaire design of the base-year survey resulted in a Hispanic undercount. By following Peng's recommendation, more accurate estimates and analyses should result. In the HS&B first follow-up survey, the questions regarding race and origin have been revised.

High School Bilingual or Bicultural Program Participation

The following question appears in HS&B: Have you ever been in any of the following kinds of courses or programs in high school?

e. Bilingual or bicultural program

YES	7,419
TOTAL	58,270
% YES	12.7%
Estimated weighted % YES[3]	9%

The intention in asking this question in HS&B was to allow researchers to identify students who were enrolled in federal Title VII, state, and Local Educational Agency (LEA) bilingual education programs during high school. The student responses from the High School and Beyond survey are far from consistent with data in other surveys.

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[3]The NCBR calculated raw and weighted estimates for the 11,303 respondents in the language file, then extrapolated those findings for the 58,270 file. The extrapolation should underestimate the true weighted percentage of students responding affirmatively to the survey question.

When examining similar results from various surveys, one expects to find discrepancies. However, the self-reported responses of students in High School and Beyond suggest about a 9% participation rate in high school bilingual programs, whereas other estimates of high school bilingual program participation range no higher than 3%.

For example, the Office of Civil Rights (1980) contracted Killalea Associates to prepare a Users Guide for its Fall 1978 Elementary and Secondary School Civil Rights Survey. In that report, an estimated 660,000 LES/NES elementary and secondary public school students were served in bilingual programs, High Intensity Language Training (HILT) programs, English-as-a-Second-Language (ESL) programs, or non-language classes taught in a language other than English. In percentage terms, about 1.6% of the nation's almost 42 million elementary and secondary public school students in 1978 were served in bilingual and other language-related programs. In one sense, this percentage underestimates participation in bilingual programs because fluent-English-speaking (FES) students also are allowed--and sometimes are required--to participate in bilingual programs. However, even doubling the number of students served takes us to a participation rate of little over 3% which is still far short of the 9% estimate derived from High School and Beyond data. Moreover, the OCR's proportion of participation also overestimates high school participation rates: (1) OCR's estimate includes non-bilingual program participation, and (2) a clear majority of bilingual programs are offered in K-6.

The National Clearinghouse for Bilingual Education (1981) estimated that roughly a half million public elementary and secondary students would be served in various federally-funded bilingual programs in 1980-1981. The National Center for Education Statistics (1980) projected a national elementary and secondary public school enrollment of about 41 million for 1980. These estimates, thus, suggest a bilingual participation rate of 1.2%. Certainly, this estimate does not include state and LEA bilingual program participation--which may double, triple or even quadruple the overall estimate. However, it

seems unlikely that state and local programming would increase the bilingual participation rate over seven-fold.

In short, estimates of all school-aged students participating in bilingual programs are of the order of a half million to perhaps two million out of a national student enrollment of 40 million or so. Assuming equal participation rates in all grades (an assumption which should overestimate high school participation), at most, a little over 300,000 students would be expected to be enrolled in high school bilingual education programs in the 10th and 12th grades. The High School and Beyond estimate suggests that about 600,000 of the nation's estimated 6.8 million sophomores and seniors in 1980 participated in bilingual programs in high school.

The wording of the question in HS&B probably taps responses extending beyond high school participation in federal, state and local bilingual education programs. Indeed, some students may have misread the question and answered "yes" for bilingual program participation in grades K through 9, although there is no way in the current files to check this. Additionally, some students enrolled in high school language instruction in German, French, Spanish and other languages may have responded that they had been in a bilingual program, because the question did not specifically exclude foreign language instruction.

Results from preliminary analysis of HS&B at the NCBR suggest a few other possibilities. Working solely with the 11,303 language minority file:

(1) 1,613 students responded that they took an English course assigned for students from non-English speaking backgrounds in grades 10-12, which amounts to 2.8% of the 58,270 sophomore and senior respondents and 1.95% of the estimated 6.8 million sophomores and seniors in the nation;

(2) 3,921 students responded that they had taken reading and writing courses in grades 10-12 in a language other than English--which typified their language background, again, 6.7% and 4.7% as above;

(3) 1,635 responded that in grades 10-12 they had "other subjects, such as math or science, taught, at least in part, in the non-English language of their background, or 2.8% and 1.9% as above; and

(4) 3,703 responded that they had taken courses in the history or culture of their ancestors' country of origin or on their life in the United States, which amounts to 6.4% and 4.5%.

Item (1) probably is HS&B's best identifier of individual limited-English proficient high school students. Item (3) probably is HS&B's best identifier of individual LMY participation in something like high school bilingual education programs. Item (2) apparently taps LMY who took high school bilingual education and high school "foreign" language courses in the non-English language of their background, and item (4) taps ethnic history and culture high school courses taken by LMY.

Crosstabulations between responses to item (3) and responses to the question of high school bilingual or bicultural program participation are revealing. About 11% of the estimated 1 million LMY answered that they were in high school bilingual or bicultural programs but had not taken courses, like math or science, taught, at least in part, in the non-English language of their background; only 3% of the 1 million stated they were in bilingual or bicultural high school programs and had taken such course work. While bilingual education programs at the high school level need not include math or science taught in a non-English language, such instruction tends to be one feature of secondary level programs. The response suggests misinterpretation of the "bilingual or bicultural program" question.

Tentatively, the NCBR believes that item (3) yields about the best information on LMY participation in high school bilingual education programs, and Peng (1982) agrees. Additionally, Peng has advised the NCBR that the National Opinion Research Center (NORC), the HS&B contractor, currently is doing a validation study to check and resolve inconsistencies in responses to language-related items. These findings should shed more light on the quality of the HS&B data.

HS&B Tests

Little information on the technical adequacy of the HS&B test battery is currently available at this time. Schrader and Hilton (1980) provide a preliminary analysis of the test battery with respect to validity and reliability; however, this initial field test analysis was not based on a national probability sample. Heyns and Hilton (1982) provide a history of test development for HS&B, reliabilities for the test battery, some discussion on the validity of the tests, item analyses for three of the tests and a discussion on ceiling effects. Generally, inadequate information on the HS&B test battery now exists. Heyns and Hilton conclude that "a proper assessment of the usefulness of the tests as mesures of cognitive growth must await the first follow-up results" (1982, p. 89). Peng (1982) has informed the NCBR that study on the technical adequacy of the test battery is continuing.

Summary

This technical note is not written as a comprehensive guide for bilingual researchers using the HS&B data set. Rather, it is intended to provide users with a few of the lessons that the NCBR has learned in its work with the data set and to provide users with some additional references which may be consulted in continuing work with the rich resource at our collective disposal, i.e., the High School and Beyond data set.

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